

Space Launch System

Highlights

April 2014



Avionics System for SLS Boosters Gets 'Boost' of Its Own on Path to Space

Eric Corder, right, avionics system manager at NASA's Marshall Space Flight Center, talks about the SLS booster avionics system at ATK's laboratory in Clearfield, Utah. The avionics system is responsible for igniting, steering and jettisoning the two five-segment solid rocket boosters for the SLS. The booster avionics system—including hardware, software and ground test systems—are being integrated into a complete forward skirt ring. The avionics testing, which will be completed this summer, will prove the system is ready to enter the qualification phase leading to SLS's first flight in 2017. For the full story, [click here](#). (ATK) ►

Artist concept of the SLS solid rocket boosters firing their separation motors and pushing away from the core stage, which continues toward space with the Orion spacecraft. (NASA/MSFC)



NASA Engineers Prepare Game Changing Cryotank for Testing



NASA and Boeing engineers inspect and prepare one of the largest composite rocket propellant tanks ever manufactured for testing. This advanced composite cryotank could benefit many of NASA's deep space exploration spacecraft, including SLS. For more information, [click here](#). (NASA/MSFC)

Signed, Sealed and Delivered

The adapter that will connect the Orion spacecraft to a Delta IV rocket for Orion's first flight test later this year is loaded onto a truck April 16 at NASA's Marshall Space Flight Center. The hardware—designed and built at the Marshall Center—was delivered later that night to United Launch Alliance (ULA) in Decatur, Ala. From there, it will travel by ship to Cape Canaveral, Fla. ULA is constructing the Delta IV rocket for Orion's first flight. (NASA/MSFC)



Spaceflight Partners: MT Aerospace

EDITOR'S NOTE: Every month, SLS Highlights turns the spotlight on one of the industry partners helping to create the largest rocket ever built for human space exploration. In this issue, we profile MT Aerospace of Germany.

MT Aerospace of Germany produces the dome gore panels for Boeing's core stage development of the Space Launch System. Gores are curved, pie-shaped, pre-formed aluminum alloy dome segments that are welded together to make the dome that caps the fuel tanks for the rocket. Complex, high-precision products have firmly established MT Aerospace as an innovative member of the global aerospace industry.

Founded in 1969, MT Aerospace has grown to be a trusted partner in the space industry around the world.



▲ Boeing weld engineer Guillermo Ladut and fabrication specialist Todd Duhon calibrate settings for the next dome weld test at NASA's Michoud Assembly Facility. Each gore panel is placed on the tool to be welded to 11 other identical pieces to form the dome that will cap an SLS fuel tank. (Boeing)

◀ Gore weld panels from MT Aerospace are placed for the next friction stir weld test at Michoud Assembly Facility. (Boeing)

Space Launch System, Cryotank Project Teams Win Stellar Awards

Two teams from NASA's Marshall Space Flight Center recently were honored by the Rotary National Award for Space Achievement Foundation with Stellar Awards—recognizing accomplishments that hold the greatest promise for furthering future activities in space. Teams from the SLS Program and Composite Cryotank Technology Demonstration Project were among the 10 winners selected from 164 nominees. Accepting the awards are, fifth from left, Justin Jackson, project engineer for the NASA Composite Cryotank Technology Demonstration Project, and SLS Program Manager Todd May, fifth from right. NASA astronauts Karen Nyberg and Douglas Hurley presented the awards April 11 at the annual foundation gala event in Houston. For the full story, see the [April 30 issue](#) of the Marshall Star. (RNASA Foundation)



NASA Gears Up for Next Set of Engine Tests for SLS



The RS-25 engine that will power SLS off the launch pad and on journeys to an asteroid and Mars is getting ready for the test stand at NASA's Stennis Space Center now that J-2X has finished testing. Formerly known as the space shuttle main engine, the RS-25 accumulated over 1 million seconds—or almost 280 hours—of hot fire experience during 135 missions and numerous related engine tests like the one pictured here. A number of J-2X test objectives offer benefits to the upcoming battery of RS-25 tests, including defining the performance, control and data characteristics of the test stand, and new processes used to record and interpret engine performance data. To watch the last J-2X engine test, [click here](#). (Aerojet Rocketdyne)

I am building SLS
Mike Beckstrand
Stage Controls Program Manager



To find out more about the people who are building SLS, [click here](#).

SLS On the Road...



The SLS and Orion spacecraft inflatables on display April 3 at NASA Alabama Aerospace Day in Montgomery. (NASA/MSFC)



SLS team member Kirk Pierce speaks with students April 30 at the Philadelphia Academy Charter School. (NASA/MSFC)



SLS team member Trey Cate talks to visitors April 30 at the Fumo Family Library in Philadelphia about the agency's new rocket. While in the "City of Brotherly Love," the SLS team talked with several schools, attended a Philadelphia Phillies game for "Science Night at the Ballpark" and staffed a NASA exhibit at the Science Carnival on the Parkway. (NASA/MSFC)



NASA Administrator Charles Bolden, left, talks about the path to Mars using NASA's new rocket with SLS team members Shannon Raleigh, second from left, and Twila Schneider on April 25 at the USA Science & Engineering Festival in Washington. (NASA/MSFC)

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SLS on Deck:

- Full-assembly Scale Model Acoustic Testing continues
- Construction begins on new SLS test stands at Marshall
- Booster forward skirt structural loads testing